

Public Workshop

Issues Related to the

Zero Emission Vehicle Regulations

Air Resources Board

October 25, 2000

Overview

- **Biennial Review process to date**
- **Next steps**
- **Today's agenda**

Biennial Review Process to Date

- **Staff investigation**
- **March and May workshops**
- **Staff Report**
- **September 7 Board meeting**

Board Resolution

- **ZEV program is essential component of state long term air quality strategy**
- **Basic ZEV requirements should be retained and implemented**
- **Staff to develop and propose steps to address challenges and result in sustainable market**

Next Steps: Regulatory

- **Today's Workshop**
- **Initial Statement of Reasons**
 - To be released by December 8, 2000
- **Board meeting**
 - January 25, 2001

Next Steps: Non-Regulatory

- **Incentives--AB 2061**
 - Guidelines to Board November 16
- **Marketing, Infrastructure, Education**
 - Report on status and plans at January 25 Board meeting

Today's Workshop: Purpose

- **Solicit public comment on issues**
- **Confront tradeoffs**
 - **Critical mass vs. cost, risk**
 - **Certainty vs. flexibility**
- **Assist in development of possible regulatory changes**
- **Must consider combined effect of various measures**

Today's Agenda

- **Board's direction to staff**
- **PZEV proposal**
- **Other issues**
 - **ZEV production level**
 - **Credit structure: vehicles**
 - **Credit structure: other areas**
 - **Overall ZEV requirement**

Board's Direction to Staff

- **Enhance environmental protection**
- **Maintain true ZEV component, increasing over time**
- **Encourage advanced technologies**
- **Provide market opportunity for today's ZEVs**
- **Address cost to manufacturers**
- **Communicate clear message**

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PZEV Background

- Large automakers may meet 60 percent of their ZEV obligation with PZEVs
- Intermediate automakers may meet 100 percent of their ZEV obligation with PZEVs

PZEV Requirements

- **Certify vehicle to meet**
 - 150,000 mile SULEV emission standards
 - Zero evaporative emission standard
 - OBD II requirements for SULEVs
- **Extend performance and defects warranty to 15 years/150,000 miles**

PZEV Credits

- **Baseline** **0.2**
- **Zero emission VMT
(or advanced componentry)** **0.0 to 0.6**
- **Low fuel cycle emissions** **0.0 to 0.2**

Staff PZEV Proposal

- **Objective**

- Allow manufacturers to take full advantage of PZEV option

- **Proposal**

- 40/80/100 phase-in
- Provide intermediate in-use compliance standards
- Changes apply to both large and intermediate volume manufacturers

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ZEV Production Levels

- **Base case volume estimates (x 1,000)**

<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
22	22	22	31	31	40

- **Will vary with early introduction, vehicle mix, PZEV availability**
- **Other factors to consider**
 - High cost
 - Uncertain demand

Issues

- **What is appropriate number of vehicles?**
- **What factors should be considered?**
- **Additional credit for early introduction?**
- **Increase requirement over time?**

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Credit Structure-- Vehicles

- **Issues**

- **Vehicle range**
- **Vehicle type**
- **Advanced propulsion technologies**
- **Vehicle efficiency**
- **Battery life/battery warranty**

Vehicle Range

- **Current status**
 - Multiple credits only for vehicles with range greater than 100 miles
- **Issues**
 - Should any range credit be retained?
 - If so, what minimum range?
 - How big a multiplier?

Vehicle Type

- **Current status**
 - NEVs, City EVs, full function EVs all earn same credit, except for range
- **Issues**
 - Differentiate among different types of vehicles? How?
 - Reduce or eliminate NEV credit?
 - Use other measures to limit compliance using NEVs or City EVs?

Advanced Propulsion Technologies

- **Current status**
 - Little incentive for high scoring PZEVs
- **Issues**
 - Modify credit structure to encourage advanced propulsion technologies?
 - Which technologies?
 - How to encourage?
 - Timeframe?

Vehicle Efficiency

- **Current status**
 - No direct credit for vehicle efficiency
- **Issues**
 - Additional credit for high efficiency?
 - How?

Battery Life/Battery Warranty

- **Current status**
 - Battery life not addressed
- **Issues**
 - Who should pay cost of battery replacement?
 - Additional credit for manufacturer battery warranty?

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Credit Structure--Other Areas

- **Current status**
 - No other credits provided
- **Issues**
 - Vehicle placement
 - Infrastructure development
 - Transportation programs

Credit Structure--Other Areas

- **Vehicle placement**
 - Additional credit for vehicles placed in service?
- **Infrastructure development**
 - Additional credit for infrastructure?
- **Transportation programs**
 - Additional credit for vehicles placed in transportation programs?

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Overall ZEV Requirement

- **Percentage requirements**
- **Vehicle weight classifications**
- **Manufacturer volume classifications**
- **Federal motor vehicle safety standards**

Percentage Requirement

- **Current status**
 - Full ZEV allowance vehicles can satisfy ZEV requirement
- **Issues**
 - Set aside a portion of ZEV requirement for pure ZEVs?

Vehicle Weight Classification

- **Current status**

- Regulation applies to passenger cars and light duty trucks with gross vehicle weight below 3,750 pounds

- **Issues**

- Should credits earned by heavier vehicles apply against ZEV requirement?

Manufacturer Volume Classification

- **Current status**
 - Small volume < 4,500
 - Intermediate volume < 35,000
- **Issues**
 - Increase volume limits?

Federal Motor Vehicle Safety Standards

- **Current status**
 - Not addressed
- **Issues**
 - Should full FMVSS compliance be necessary for ZEV credit?

Biennial Review

- **Current status**
 - Start this all over again in late 2001
 - Uncertainty interferes with market
- **Issues**
 - How evaluate technology without negative consequences?